
Quality Improvement: A Strategy for Planned Organizational Change

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ABSTRACT

IN ADDITION TO DETERMINING EXACTLY what quality improvement means in a library environment, there is the challenge of identifying and using an appropriate strategy for implementation. Among the factors that can delay or even prevent adoption of quality improvement efforts, such as Total Quality Management (TQM), is fear that the adoption itself may fail. This fear is well founded; many organizations, among them libraries, have a history of starting and then abandoning planned change. Even with the best of intentions—i.e., carefully developed plans and seeming commitment to the ideals of quality—not every implementation is successful. An examination of the literature of change offers several major perspectives on effecting organizational change and yields insights that can be overlaid on the foundations of continuous improvement; taken together, these then suggest strategies by which adoption of quality improvement can be undertaken successfully. By viewing the adoption of an improvement strategy as two distinct but related challenges—one dealing with the philosophy and values of the library and the other with the technical requirements of TQM tools and processes—the adopting library will increase the probability of its selecting and using appropriate strategies. Of necessity, these strategies must be situation specific, but some possible strategies for libraries to use are identified.

INTRODUCTION

The oral history of quality improvement is littered with tales of botched implementations, less-than-stellar outcomes, and utter failures,

yet few of these stories ever appear in professional publications, scholarly journals, or even conference papers. Marginally successful efforts, when they are discussed in the literature at all, are often made to sound like model programs fully worthy of others' emulation. This state of affairs is not too surprising; there are, after all, few rewards and considerable pain accruing to organizations willing to admit failure. Even in those limited situations when organizations are willing to come forward and describe their change failures, there can be difficulty in gaining enough data about the change and enough understanding of the specific context in which it occurred to achieve a real understanding of the causes. Unless one has been a participant in the process, it is nearly impossible to answer the question "What has caused this failure?" at more than a superficial level. So, libraries and other organizations continue to rely on cookbook approaches and good intentions to guide implementation of what may well be the most significant change effort ever attempted in those organizations.

One of the difficulties in examining the literature of quality improvement is the range of terminologies used to describe the various approaches to formal (or structured) quality improvement programs. Total Quality Management (TQM), while a common referent in many kinds of organizations, is viewed with distaste by many in the public and educational sectors. Continuous Quality Improvement (CQI) appears to have stronger support among not-for-profit institutions but is by no means universally used. Perhaps to avoid unproductive debates about naming, many organizations devise their own terminologies or use a more generic name such as "action learning" to include their improvement efforts. The nuances of naming often reflect the perceived differences among the many approaches to quality improvement. Without discounting those differences, in this article, a variety of the most common referents are used and subsumed by the term "quality improvement."

Holpp (1989) reviewed failed adoptions of Total Quality Management and identified factors associated with them. These factors ranged from unclear objectives and refusal to cooperate to lack of management involvement and nonstatistical thinking. While he suggests some notions to keep in mind in planning for quality, he does not make clear exactly what it is necessary to do or why.

Libraries, while they are not "just like" any other kind of organization, are not completely unlike other organizations either. Because few of the library efforts to implement quality improvement have been explored in print, and because it is not clear how much of the "generic" material on quality really fits the library as an institution, libraries that want to begin the transformation to being a quality-focused organization may wonder how to get started. They may question whether what worked for a manufacturing firm, a service organization, or a government unit will work for them. And, given a suggested framework for implementa-

tion, they may be unable to determine what, if any, modifications would make the task smoother.

STRUCTURED QUALITY IMPROVEMENT

A structured approach to quality improvement, most notably under the rubric Total Quality Management but also known by myriad other referents, has been alternately described as a management philosophy, a decision-making structure, and a strategy for planned change; it is associated with empowerment, problem solving, customer service, and other worthy, but often abstract, concepts. There is, however, a set of core values or philosophies that quality improvement systems seem to encompass. These include:

- customer focus
- commitment to continuous improvement
- data-based decision making
- process or systems thinking
- employee involvement in decision making

These form the foundation of continuous quality improvement and will be examined more closely in subsequent sections. Most approaches to quality improvement, such as TQM, also provide a framework for diagnosing and solving problems and two sets of tools—one for problem solving and the second for planning and other management activities. The framework and tools provide a means for implementing the improvement philosophy, aligning efforts across the organization, and applying sound problem-solving methods. While it is possible for an individual to apply quality improvement techniques to his or her work, one characteristic of most formal improvement efforts is a reliance on teams to develop and implement improvements in the context of the larger organization.

ORGANIZATIONAL CHANGE

Instead of relying on cookbook approaches and examining narrowly drawn tales of mistakes (or successes) made by organizations adopting structured quality improvement, it may be useful to study the broader literature of organizational change to ascertain what lessons might be learned and applied in the adoption of quality improvement. The purpose of this article is to consider multiple perspectives on the dynamics of change; examine studies of their successes and failures; synthesize the results of those studies; overlay them on the foundations of formal quality initiatives; and, finally, suggest strategies which might be used to design and implement successful improvement efforts in libraries.

Two major perspectives on the dynamics of change, which will be examined here in depth, are planned organizational change (often

referred to by the term "organizational development"), which derives primarily from the work of social psychologists such as Lewin (1951), Schein (1970), Argyris and Schon (1978), Argyris (1985), and diffusion of innovation (or technology transfer) as described by Rogers (1983), who synthesized hundreds of individual studies and research reports dealing with an extensive array of technologies and practices, and by practitioners such as Kanter (1983). Three additional change literatures which have been examined are quality-specific models arising primarily in the last two decades and spurred by expanding interest in TQM in business organizations in the United States, and relatively recent theories of chaos (or disequilibrium) and learning organizations applied to social and human change.

These perspectives on the dynamics of change, especially the first two, have received considerable attention in published works on organizational change, managerial behavior, and individual responses to conditions of change. Case studies and other research on change often derive their conceptual frameworks and methodologies from one of these perspectives, although detail about the source of the perspective and its tenets may be omitted. Chaos theory and writings on learning organizations have quickly managed to capture the attention of those who are concerned with organizational change; while there is scant published research, there are thought-provoking books and articles. Taken together, then, these fields represent an extensive knowledge base which can provide insights on successful and less successful approaches to organizational changes such as the adoption of structured quality improvement programs.

To the extent that patterns of success or failure can be ascertained from existing studies, it is possible to derive principles and/or practices that are commonly found in successful change efforts and always or usually absent from the less successful ones. In identifying these principles and practices, particular attention must be paid to conditions found within the studied organization and in its immediate environment since operationalizing what constitutes an appropriate strategy is likely to be dependent on situational variables. One way of applying the derived principles of change to the situation of a specific library is to think of each principle (or practice) as being balanced between internal conditions and external requirements. These external requirements may be imposed either by the dynamics of change or the expectations of any of the systems of structured improvement.

LIBRARIES AS CANDIDATES FOR STRUCTURED QUALITY IMPROVEMENT

The effort required to accomplish a library's transformation to a quality-focused environment will be substantial; is it worthwhile? The

most aggressive proponents of quality improvement would argue that every organization, regardless of purpose, size, or character, would benefit from the introduction of TQM or a similar system of quality improvement. A more moderate position suggests that libraries are particularly good candidates for structured improvement because there is a good fit between the core components of quality improvement and the characteristics of libraries. There are some fundamental problems as well, but these may be overcome with appropriate attention during the adoption process.

CUSTOMER FOCUS

Although there may be some tendency to resist calling them "customers," library users (patrons, clients, etc.) have received considerable attention. Public libraries are often governed by boards explicitly representing the community and implicitly representing the interests of consumers. Academic libraries (and other types of libraries as well) use library committees to secure input from their customers. While actual usage of inputs from these customer groups may fall short of the ideal of quality improvement systems, it does represent acceptance, at least, of the basic concept. Library acceptance of quality's focus on internal customers may be a harder sell. In the case of external customers, there may be a tendency on the part of those who work in libraries to argue that the customer is not always able to judge the kind of service needed or to recognize those elements in the service that contribute to its quality.

COMMITMENT TO CONTINUOUS IMPROVEMENT

Few libraries operate in the same way or provide the same services as they did only a few years ago. While the desire to improve service may be only one factor in effecting these changes, it does offer encouragement for the ability of libraries and their staffs to commit to continuous improvement. Guided by a system of continuous improvement, the library will make conscious decisions about what improvements are needed or desired based on customer requirements rather than on trends in other libraries or the availability of an advanced technology.

DATA-BASED DECISION MAKING

Especially as they have become more automated, libraries have enhanced their data-collection activities. Some of the information being collected may be less than ideal for the purposes of quality improvement; it may be largely ignored by staff and other decision makers; or it may be inaccessible to those who would most benefit from it, but the existence and retention of data which measure library processes and outputs demonstrates a fundamental acceptance of the need for measurement.

PROCESS OR SYSTEMS THINKING

Most libraries are oriented to internal functions, processes, and systems, and some might argue that this orientation has worked to the detriment of large-scale change; however, it means one less barrier in terms of implementing quality's focus on systems. The notion that systems are made up of subsystems of interlocking processes (e.g., that the acquisitions system consists of subsystems for selection, prioritization, ordering, payment, etc. and that selection, in turn, subsumes the processes of reviewing newly available materials, applying selection criteria, etc.) is embedded in library operations.

EMPLOYEE INVOLVEMENT IN DECISION MAKING

In some ways, the largest gap between the principles of quality and the library may come in the aspect of employee involvement in decision making. Libraries have relied on comprehensive policies and standardized procedures to eliminate the need for individual decisions. The value of consistency has sometimes outweighed the value of customer satisfaction. The emphasis has been on quality control rather than quality improvement. Decisions about topics which require policy development and/or the design of procedures are often the responsibility of just the "professional librarians" or even boards rather than the responsibility of those who actually carry out the activity.

Among the characteristics of libraries that may impede the implementation of structured improvement programs or pose particular problems to be addressed in the implementation process are: status differences and specializations across staff; valuing of tradition; competing customer needs; the role of boards and advisory committees; large numbers of part-time employees; and staggered schedules of employees working with the same processes. The pressures facing today's libraries—stable or decreasing budgets, rising materials costs, new demands for accountability, and others—are not likely to disappear; quality improvement offers one opportunity for addressing them. It, unfortunately, also faces a threat—i.e., the significant changes which will result from the pressures noted above (whether or not quality efforts are adopted) may be perceived as resulting from the improvement effort itself.

The framework for problem solving and the two sets of tools that are part of systems for continuous improvement offer concrete means of moving from the philosophical notion of continuous quality improvement to the practical tactics required to actually improve quality and manage the library. Adopting the philosophy of quality without the tools leaves staff unnecessarily struggling to do what is needed; adopting the tools without the philosophy contributes to cynicism and resistance. Besides the framework and tools, teamwork is another structural aspect of most formal improvement programs. In practice, almost all organiza-

tions that implement a TQM-like approach to improvement also emphasize the use of teams. Libraries which have used task forces and staff committees to address important library issues (such as strategic planning, policy development, etc.) may find the use of cross-functional teams to improve quality an easy extension of those other experiences; libraries which have relied on individuals or "chain-of-command" structures to accomplish important tasks may have an additional challenge in this aspect of implementing quality.

Another aspect of quality improvement that may prove problematic is the notion of "quality." Libraries, like many other nonprofit, service, and educational organizations, have tended to define quality in terms of richness of resources. Total number of volumes owned, number of best sellers per site, size of professional staff, and similar measures have been taken as indicators of quality. Under continuous improvement, quality is defined as that which meets or exceeds customer expectations. The implications of this are profound. First, libraries must know what their customers expect and how they measure it. A second implication rests on the first—that libraries have an obligation to ensure that their customers are informed/educated about what kinds of expectations they could have. If traditional measures of quality are no longer valid, decisions must be reached about what new measures are appropriate and how they will be obtained. Practices that heretofore were taken for granted or policies that were unexamined become subject to consideration in light of consumer needs and expectations.

There is reason to believe that such changes are on the way. Sweeney (1994), for example, in an article in *Library Trends*, makes a case for what he calls the "post-hierarchical library." This organization, "characterized by a unique mission, self-organizing systems, and major changes in work processes" (p. 64) certainly sounds as though it has implemented an improvement system as it is focused "on the satisfaction of user information needs" (p. 64).

THE LITERATURE OF CHANGE

Planned Organizational Change

By far the largest body of literature on change comes from the perspective of planned organizational change. The studies focus on the psychological, sociological, communications, management, or other critical aspects of planned change; they analyze data at the organizational, group, or individual level. A few studies examine whole sectors or industries. There is also considerable attention paid to the outside environment in which an organization operates and the climate within the organization itself as factors which may influence the success of planned change. In general, the findings from this line of research can be linked to one of

several categories: external environment, internal culture and climate, management roles, participant needs, and restabilization (or anchoring) of the planned change.

External factors are viewed both as an important pressure toward change and as possible restraining forces. The traditional view of planned change argues that a sense of urgency, fostered by external demands, is one necessary antecedent to organizational change. External factors which may trigger the need for change include: market forces, customer demands, or the introduction of new technologies (Jacobs, 1994). These factors, once they reach a critical threshold, are presumably impossible to ignore; they may be discovered before reaching the critical stage through monitoring, environmental scanning, customer surveys, or other data-gathering techniques. External factors may also impede the accomplishment of change; some examples would include collective bargaining agreements, regulatory requirements, and lack of support from stakeholders. Some believe that it is more useful to remove restraining forces than to rely on the strength of driving forces; this presumes the change will occur unless it is prevented—probably not true of formal quality improvement.

Some factors that drive change may be either external or internal—e.g., changing values. Beckhard and Harris (1987) note a trend in workforce attitudes toward desire for more autonomy, flexibility, and meaningfulness coupled with less “organization loyalty” (p. 12).

Organizational culture and climate are internal factors significant to the success of planned change. Distributed power, open and decentralized communication systems, participative decision making, and acceptance of conflict have been identified as contributing to successful changes (Beckhard & Harris, 1987; Pacanowsky, 1988; Miller et al., 1994). There seems to be broad agreement that an openness to consider change and avoidance of mistakes early in the change process tends to accompany successful change efforts, but it is unclear whether such states as openness are causes or effects. Toffler (1985) has argued that internal dissatisfaction can exert a pressure toward change; factors such as unsatisfying organizational politics, poor management, or the entrance of a new leader can predispose an organization to change.

The role of management in implementing organizational change has probably received more attention than any other aspect of the change process. Managers are charged with the key responsibility of creating and communicating a vision of the desired end state (Beer et al., 1990; Schaffer & Thomson, 1992; Kotter, 1995). It is expected that managers will play a major role in ensuring that the conditions noted above (distributed power, etc.) will obtain. Managers also have prime responsibility for recognizing and rewarding those who join the change effort (Pacanowsky, 1988). Marshak (1993) argues that the management of

metaphors is a critical task for the change agent/manager because subconscious beliefs and assumptions exert a profound influence on the change process and are expressed in unconscious language and the use of metaphors. For example, one possible employee response to an announcement of plans to implement quality improvement is "It ain't broke, don't fix it," suggesting a mechanistic view of the organization; the manager's challenge then becomes to substitute in the organizational vocabulary the metaphors that imply a need for movement (perhaps using terms like "journey" or "exploration") or transformation.

Miller, Johnson, and Grau (1994) examined factors that contribute to employee willingness to participate in planned change and concluded that employees with a high need for achievement seek to be informed about the planned change and are better able to obtain higher quality information from informal communication networks. Despite this orientation toward success and increased access to information, these employees experienced anxiety related to lack of knowledge—especially about their own and others' roles. In a May 1995 Internet discussion on the change list (change@mindspring.com), Haywood and his colleagues identified at least ten factors that led people to resist changes in their work organization. Reflecting Haywood and other researchers, it is possible to enumerate general factors leading to resistance.

1. Perception that the change would interfere with future promotions.
2. Reasons for change were not clear to those expected to change most.
3. Perception that the change was not important to continued success.
4. Change decreased or eliminated rewarding aspects of jobs.
5. Change not compatible with prevailing values.
6. People felt coerced to adopt change.
7. A hostile working climate existed in the organization.
8. Resistance to change was not dealt with constructively.
9. Functional or territorial boundaries prevented collaboration.
10. Sponsors of the planned change lacked agreement on key goals.

These suggest some of the questions and issues that need to be addressed in order to move ahead with planned change; they may also be useful in identifying stumbling blocks that may arise during the change process.

One somewhat surprising aspect of unsuccessful change is that it is sometimes due not to failure to achieve the change but, rather, failure to stabilize or institutionalize the change. Adjustment of internal systems, such as MIS and reward systems, and distribution of resulting new artifacts, such as performance appraisal materials, reports, and organization charts, are all needed to securely embed the planned changes in the day-to-day reality of the organization (Beer et al., 1990; Kotter, 1995). Some change efforts fail because attention to the change process is dropped too soon (Kotter, 1995).

From the studies of planned change, it is possible to derive several approaches or models of the change process. First, one must ask if the change is to be evolutionary or revolutionary. If the former, existing structures will be maintained, at least initially, and the organization will go through a development or transition period while the old ways and the new co-exist, perhaps uncomfortably, with neither working optimally. If the latter, old structures and processes will be discarded, perhaps even before new ones are created to take their place (Ackerman [1986] describes revolutionary change, in a possibly less-threatening way, as transformation). The outcomes of the various approaches to planned change (evolution, development, transition, transformation, revolution) may be the same; what differs is the speed, drama, and intermediate consequences of the period between the old and the new. Specific models may be best thought of as points along a continuum, from evolution to revolution, gradually shading into each other rather than separate discrete approaches to planned change.

The "big bang" or top-down model emphasizes the urgency of the change and attempts to implement it everywhere in the organization at the same time. It is across-the-board and often accompanied by organizationwide meetings, educational interventions, highly visible involvement of top management, and major short-term losses in productivity. This model has been used successfully in TQM adoptions especially in manufacturing organizations.

Another approach which preserves the visible involvement of top management but allows for a more gradual implementation of change might be called "managed change," wherein specific opportunities are selected and pursued. Typically, this would leave the organization less likely to incur major losses in productivity but at the cost of a lengthier overall period of implementation. This model may be best represented by organizations which approach quality improvement through the use of pilot projects.

"Small wins" as a third approach is opportunity-driven; top management may or may not be involved, and strategic decisions are made about units or divisions within the organization that are most likely to accept the change and implement it successfully. This model is often experimental rather than being even a small-scale pilot project. Higher education implementations of quality—particularly those based in academic units—provide a common example of this model. The risk is that the change may never achieve widespread adoption.

A final approach is one that might be termed "back door" or bottom up; it almost certainly does not involve top management nor does it have visibility throughout the organization. Those who see the benefit of a particular change will adopt it; others may be completely unaware of what is taking place. Any training required for the change is obtained outside

of the organization as are any other needed resources, unless they can be redirected from other efforts without attracting attention. Snediker and Weaver (1991) discuss a guerilla approach to TQM at Battelle Memorial Institute that mirrors this model.

These four models or approaches to planned change will be discussed further in the context of strategies that libraries can use in implementing quality.

Diffusion of Innovation

A second large body of literature of potential interest to those wishing to initiate a major change is found under the general rubric "diffusion of innovation" or the less common and more limited "technology transfer." Rogers (1983) defines diffusion as a process by which innovations spread to the members of a social system; diffusion is achieved when communication leads to an overt change in behavior. Typically, diffusion studies focus on the steps leading up to the decision to adopt an innovation. If one is interested in organizational change, this is potentially problematic because many implementation failures occur subsequent to an overt organizational decision to adopt. In practice, however, members of organizations have considerable control over if, when, and how to participate in the organization's adoption of a specific innovation. It seems most useful, therefore, to examine diffusion of innovation studies for insights related especially to the individual change process.

After reviewing hundreds of studies on innovation and technology transfer, Rogers (1983) was able to describe a four-phase model of diffusion. In addition to the four phases of diffusion, he also posits that there is an agenda-setting or initiation period prior to adoption and a stabilization or routinization period subsequent to adoption. His four phases are: communication of knowledge, persuasion, decision, and confirmation. Leonard-Barton (1988) looks at span (many/few ultimate users) and scope (many/few ultimate uses) as factors influencing diffusion and offers a marketing model of the process that is roughly congruent with Rogers's (1983) pre-, post-, and four phases but uses a more business-oriented language. These phases are: market research (analogous to agenda setting), advertising (encompassing the communication and persuasion stages), distribution (decision to adopt), and field support (confirmation and routinization).

Diffusion rests on five critical factors; the greater the extent to which the critical factors are satisfied by the innovation, the greater the likelihood of a successful adoption.

Advantage. The innovation is demonstrably better in some ways than what preceded it; it is more cost-effective, convenient, satisfying, faster, effective, easier, etc. Advantages may be inherent in the innovation or may be forced, for example, through the use of incentives.

Compatibility: The innovation works with whatever is already in place; it should fit existing values, use existing structures, meet ongoing needs, and reflect current or previous experience.

Complexity: Less complex innovations will be preferred over those that are more complex. If the innovation can "start small," has few essential components, and is easy to grasp, it has a better chance of succeeding.

Trialability: Innovations which can be tried out or adopted in a limited manner face fewer challenges in implementation. This factor is especially important to early adopters of the change as a way to lower risks.

Observability: Successful innovations are usually visible; they are obviously different from what preceded them. Further, their outcomes are clearly linked to their use.

A second key set of findings in Rogers's (1983) synthesis of diffusion studies is the pattern of adoption as defined by the characteristics of adopters. The terms which Rogers uses to describe the five categories of adopters have come into common usage but frequently without real understanding of what they represent. Innovators make up a very small percentage of all individuals, perhaps 2 to 3 percent; they are people who are perceived as daring and willing to try almost anything. They are often individuals of low status within the larger social system that they inhabit. Early adopters comprise another 15 percent of the population; they are role models and opinion leaders. Characterized by their integration in the larger social system, early adopters balance risks with potential for success, and they are viewed by others as quite knowledgeable. The early majority are cautious deliberate members of the social system. They are neither leaders nor risk takers and may need incentives to encourage their adoption. In size like the 30 to 40 percent making up the early majority, the late majority are more skeptical and more likely to be motivated by peer pressure. They may accept the idea of change but resist any changes in their own behavior. Laggards cling to the status quo and place a high value on tradition. Often loners, but consisting of as much as 20 percent of the population in some organizations, these individuals are suspicious, even hostile, toward innovation and toward those who champion its use.

In addition to examining categories of adopters, Rogers has elucidated the roles of two other categories of individuals important to the change process. Change agents are those who create an awareness of the need for change within the social system or organization. These may be internal to the organization or outside of it (as consultants, for example). Besides creating awareness, the change agent motivates others, encourages them to act, and reinforces examples of the desired new behaviors. The most successful change agents are individuals who are empathetic, dedicated, politically savvy, and credible to others in the social system; they must have a high tolerance for ambiguity and role conflict. Opinion

leaders are invariably members of the social system and usually able to influence others either on a broad range of issues or in a single area of acknowledged expertise. Higher status, internal and external accessibility, and visibility are associated with opinion leaders.

One possible difficulty with the application of diffusion to libraries is related to the concept of the social system. There are probably several social systems operating within even a medium-sized library. Determining the most salient system for any individual or unit may be difficult and, in any case, is likely to vary with the type of innovation being considered.

Kanter (1983) writes about organizational change from a perspective that is part planned change and part diffusion of innovation. In *Changemasters*, she describes three commodities required to support adoption of innovation. Information, other resources (space, time, training), and support (lending legitimacy and approval) are associated with the successful transfer of technologies within organizations. Although less developed than either Rogers's or Leonard-Barton's models, Kanter's work focuses attention on the important role of information and training in the diffusion process.

Quality-Specific Change Strategies

There are few research-based examinations of quality-specific change strategies; however, there are literally hundreds of articles, books, and manuals directed to those who would implement a quality improvement effort. Many of these fall into the category commonly referred to, often in a pejorative manner, as cookbooks (for example, Barrett, 1994). The metaphor (if not the pejorative tone) is warranted, for typically these guides start with a list of ingredients (or checklist), offer a sequence and timeline for combining the various elements, and conclude with instructions to apply the process and wait for some period of time for the whole effort to achieve results.

A frequent recommendation of the quality-specific implementation manuals—e.g., Scholtes (1988) and Kossoff (1992)—is to approach the development of an implementation plan as a quality problem to be solved. The P-D-C-A Cycle (Plan, Do, Check, Act), also known as the Shewhart Cycle, is the basic approach used for most process improvements. In its simplest form, it is basic scientific method—define the problem and its causes; identify possible solutions; implement one or more “best” solutions on a trial basis; evaluate the trial; and either adopt it, modify it and try again, or move to testing additional solutions. This strategy is offered as the best way to approach the adoption of continuous improvement. While this may be good advice, it may not be feasible for the organization attempting to implement a quality program without the assistance of outside consultants. In order even to assemble a team to develop, evaluate, and implement a trial quality improvement effort, members of the

organization must be persuaded to participate and must be provided with considerable opportunity for skill building and acquisition of information. It seems that, in most organizations, a decision is made at a specific point in time to adopt a structured program of quality improvement. That decision may then be followed with the appointment of a cross functional team to flesh out the plans and, perhaps, develop specific action strategies, but the engagement of the organization occurs before, rather than subsequent to, the development of the plan.

A second key theme of the quality-specific literature is the necessity of management's, especially senior management's, thorough understanding of, and commitment to, the requirements of quality (Scholtes, 1988; Holpp, 1989; Kossoff, 1992). There is a presumption that quality improvement cannot work if managers continue to go about their own work in traditional ways. Proposed implementation strategies to deal with this issue include "cascade" training, wherein members of senior management are trained first in the principles and tools of quality and then expected to train the next level of management, and "walking the talk," whereby managers are expected to model the new behaviors and values of quality for the rest of the organization. Still other strategies, such as redesign of organizational systems dealing with rewards and information, clearly require the leadership and support of managers, although many others may also have essential roles.

Examination of implementation manuals, those noted above as well as a host of others, clearly shows an awareness of the basic principles of both planned organizational change and diffusion of innovation. But the link with these approaches is usually unstated and occasionally misconstrued, so the reader can be left with the impression that the quality improvement program as an organizational change is somehow substantially different from other kinds of changes. This may serve well the purpose of separating quality from "flavor-of-the-month" management trends but does a disservice to libraries grappling with the question of organizationally appropriate strategies for implementing continuous improvement.

At least one author (Crouch, 1993) notes explicitly that the implementation of a quality emphasis entails two parallel efforts—i.e., one focused on attitudes (values) and the other addressing the technical system (structure and tools). Libraries and other organizations which lose sight of this or allow the two efforts to become unbalanced run the risk of short-term success but ultimately, in the long term, failure.

Chaos Theory

The application of chaos theory to individual and social behavior is still in the early development stages but is an outgrowth of its application to natural and biological phenomena. Key concepts in chaos theory are "complexity" and "disequilibrium." Whereas organization theories based

on the assumption of equilibrium value adaptive processes—i.e., those which have the ability to return the organization to the status quo in spite of environmental changes, theories founded on chaos value uncertainty, and posit that organizations have the ability to self-organize in continual, ever-changing, and unpredictable interaction with their environments. If this latter is an accurate view of organizations, it has profound implications for dealing with change; indeed, it suggests that change should be viewed as a natural and desired state in organizations rather than a temporary and undesirable aberration.

Goldstein (1988) notes that organizations experience a kind of autopoiesis—i.e., self-production through mutual reinforcement of their identities, environments, assumptions, and behaviors. This situation not only allows but also encourages the organization to ignore inputs—e.g., customer dissatisfaction—which contradict the desired or accepted state. From the organization members' internal perspective, this is an appropriate survival mechanism, but from the outside it can be seen as an extremely powerful threat to survival. Chaos theory would then suggest that organizations need to achieve a far from equilibrium state in which exchange between the system (organization) and the environment would be amplified and made impossible to ignore. Goldstein argues that one way to achieve the far from equilibrium state is to cause the organization to generate more information about itself through a technique of difference questioning (p. 23) or asking questions which challenge assumptions about organizational norms.

He proposes three strategies to accompany the questioning. First, collect and compare individual rather than aggregated responses to the questions. Second, contrast the organization's real purpose with its autopoietic identity. Third, when a change has been initiated, look for points in the system where resistance arises and question participants about them; use this information to reframe the resistance. As a result, the change can be integrated into the culture of the organization in a way that does not return the organization to the status quo.

Theory of Learning Organizations

Senge (1990) can be credited with popularizing the "learning organization," a concept which comes from the work of Argyris and Schon (1978) on organizational learning and has been elaborated at the Center for Organizational Learning in the Sloan School of Management at the Massachusetts Institute of Technology. It is an extension and application of the principles of double loop learning in the organizational setting. Those who focus on the learning organization take an interest in change as it results from the transfer of individual knowledge to the level of the organization.

Schein (1993) posits that dialogue, a communication technique designed to surface the underlying assumptions of individual and group thought processes, is "a central element of any model of organizational transformation" (p. 40) and an essential strategy in organizational learning. He believes this strategy to be particularly effective in overcoming the barriers posed by hierarchical subcultures and allowing new organizational responses that go beyond the status quo.

Senge (1990), Argyris and Schon (1978), and Schein (1993) all make the point that the responsibility for creating a learning organization rests with organizational leaders whose roles are described as designers, stewards, and teachers. In other words, the role of the executive is to provide the framework in which others can apply their efforts in an integrated and meaningful way to achieve the organization's goals.

One advantage to learning-organization theory as an approach to change is that it treats change as one of the normal ongoing characteristics of organizations rather than as an episodic bounded event occurring outside of organizational routines. In this way, it is like chaos theory's attempt to override the tendency of organizations to return to the status quo. In terms of quality improvement, such characteristics may be desirable since one can assume that customer needs and expectations are unlikely to remain stable over time. Thus, the quality-oriented library will need to assess customer needs not just once but continuously, and it will need to change regularly in response to those needs.

SYNTHESIS OF PERSPECTIVES ON ORGANIZATIONAL CHANGE

Like the four models of organizational change ("big bang" through "back door"), planned change, and the other approaches to change—i.e., diffusion of innovation, quality-specific models, chaos, and learning organization theories—are not necessarily distinct philosophical perspectives on organizational change. There is considerable overlap and complementarity across them. This suggests that it is possible to take advantage of the strengths of each by matching them to the particular situation of the adopting organization. In fact, as noted earlier, a close examination of the better implementation manuals makes it clear that these materials are based on some knowledge of more generalized models of change.

There are several factors that are emphasized in every approach. The important role of management in providing leadership and direction for the change is one common element. Another is the focus on the transfer of information and/or knowledge—from managers to other organization members, from the environment to the organization, and among peers. Some of the approaches explicitly, others only implicitly, link education and persuasion with the information/knowledge transfer process. Most note the part that individual choice plays in successful change, and,

with the exception of learning organization theory, which focuses on the continuous nature of change, all address stabilization or routinization as the final phase of successful change.

Planned organizational change and diffusion of innovation as the most complete of the perspectives are complementary. Diffusion of innovation explains the decision to adopt a quality approach among leaders and other organizational members as individuals, while planned change suggests factors that need to be dealt with to facilitate adoption at the level of the total organization. Further, diffusion of innovation may be particularly apt in planning for the technology transfer of moving quality tools and practices into the adopting organization. Both perspectives acknowledge the importance of the initiation or agenda-setting stage and its links to internal and external factors as well as stressing the part that satisfaction of these internal and external factors has in confirming the adoption decision.

PROPOSED STRATEGIES FOR LIBRARIES IMPLEMENTING QUALITY

The decision to implement a quality management program ought to trigger two distinct, but related, change processes in the adopting library. First, a philosophical decision to change the organization is made; implementation of this decision seems best accomplished through the use of planned change strategies with a focus at the organizational level. A second decision, to adopt specific tools and practices of quality, seems best implemented by treating it as a diffusion or technology transfer problem with a focus at the level of the individual employee. These two challenges, one philosophical and the other practical, are parallel but separate. They require compatible but different strategies, and they will most certainly test the ability of libraries to balance social and technical issues.

A necessary first step for the library is to determine what change approach is most likely to succeed given the size, environment, and conditions operating in the library. Whatever approach is taken, it must be compatible with internal values and conditions, but it must also be true to the requirements of quality improvement. Making compromises in the beginning, with the expectation that modifications can be made later, is unfair to those who will participate in the change—leaving them prone to skepticism and mistrust—and will run counter to the foundations of quality. In practice, this means that libraries should not expect to implement the philosophy without the tools (“everything would be allright if our staff would just put the patron first”) nor the tools without the philosophical underpinnings (“people can be taught to solve problems without expecting to become decision makers”).

A “big bang” implementation is assumed to work best in libraries with: pressing (external) drivers for change; strong staff support for structured improvements, at least among opinion leaders; committed

management and board; considerable experience in using teams; already highly effective communication channels; a staff small enough to meet face-to-face with the change agent(s); and resources adequate to compensate for a temporary loss of productivity. Few libraries are likely to meet these criteria, but those which do can look forward to a relatively quick implementation.

A "managed change" approach requires many of the same conditions—pressing drivers, supportive staff, management commitment, good communication—but is more likely to work when conditions are not quite so well met or when one or two conditions are missing. For example, a large library with multiple facilities might implement a managed-change strategy by targeting a single site which is representative of the system as a whole. Or a library with a functionally oriented structure and relatively little teamwork might begin its implementation of continuous improvement within a division experiencing particularly great pressures for change but which is otherwise typical of the other units in the system. The library's goal would be to use these as highly visible pilot efforts but then move quickly toward organization-wide adoption.

To an external observer, the difference between a managed-change strategy and that of "small wins" might be hard to spot, but to the library pursuing the second strategy, differences would be significant. Small-wins approaches are most likely to be used in situations where: commitment and support are uneven; some significant conditions are not met; or appropriate pilot sites are not available. It is a "we-think-we-can" strategy for the libraries which adopt it and entails at least tacit support from library leaders. Opportunities are selected based on favorable conditions including the likelihood of staff support and, usually, selected elements of a quality improvement system are inserted into the organization. To be most effective, the opportunities must have some visibility within the library but should not be too risky. If these strategic opportunities result in successful outcomes and do not engender active resistance, additional opportunities may be sought. Occasionally, unsuccessful experiments are also followed by additional opportunities. With some level of success, the library may attempt a large-scale implementation of its quality effort or may continue to pursue it on a case-by-case basis.

A "back door," or in Snediker and Weaver's (1991) term, a "guerilla" approach may need to meet few, if any, of the conditions for institutional adoption, although its promoters may hope for it ultimately to lead to librarywide implementation. Like small wins, it looks for strategic opportunities and pursues them; unlike small wins, it may be used even without leadership support or acknowledgment. Typically, elements of a quality program are introduced and applied with little fanfare, the trial opportunities have little visibility beyond the immediate participants, and the champion is either buried in the library hierarchy or viewed as an oddball.

Once the library has determined the basic strategy it wishes to use, a series of tactical decisions must be considered. The strategy which has been chosen will determine the balance in emphasis between the philosophical foundations of quality, essential to every approach except the "back door" model, and the tools and problem-solving structure. This balance will, in turn, influence the tactical steps which should be taken and their sequencing, although many of the tactics are likely to be of use whatever the approach and will differ only in degree. It is important to remember that an organization becomes quality driven only as it begins to focus on the practice of quality; therefore, from a quality perspective, it is not necessary to be able to implement quality techniques perfectly, only to be committed to continuous improvement.

Since most libraries are likely to find that a "managed change" or "small wins" approach is best suited to conditions which exist there, the balance of this discussion is biased in those directions, and specific examples and suggestions are consistent with those approaches. Particular attention is given to ways in which the P-D-C-A cycle can be incorporated in the change process. The following discussion of tactical issues and decisions is organized around the phases of Rogers's model, which is basically linear but does not require that an earlier phase be completed before moving into activities associated with the next stage. Rogers's four-phase model is itself completely compatible with the P-D-C-A approach to problem solving. Be aware that some situations may make it desirable to move ahead (or back) to address specific library concerns.

AGENDA SETTING

While the library director and/or board may have already made a decision to pursue the use of quality improvement and should have involved other key managers, the agenda-setting period is an opportunity to focus attention on the forces that require the organizational change and to define the problems that a quality approach will solve. It further provides an opportunity to carry out both steps in a public setting which should engage the largest possible number of staff. Ideally, there has been substantial discussion leading up to this point. If not, the agenda-setting stage may need to extend over a relatively longer time period. It may be during agenda setting that decisions are made concerning the specific approach the library will adopt.

From the perspective of participants in the organization, agenda setting puts the issue "on the table"; it makes quality a part of ongoing organizational conversations. Quality improvement will get mention in minutes, brief treatment in library newsletters, be the subject of articles circulated to members of the staff, etc. One or a few opinion leaders among the staff may be sent to conferences or workshops dealing with quality, assessment, or other associated topics. The tone of official communications is not so much "this is what we are going to do" as "this

is what we are looking at as a solution to our problems" or "we think this might assist us in our goal to excel."

Tactical issues to be addressed during this phase include: management involvement and role; whether to use an internal or external consultant; how to refer to the change effort (metaphor, vocabulary, etc.); the vision and/or specific goals for the change; and identification of values that will serve to support the change. This would also be the time for the quality champion (board chair, library director, or another high-level administrator) to become visibly involved in the change effort.

Issues around management involvement and their role will entail decisions about:

- what level of training to provide to managers and when to do so;
- whether and how to use managers in training others;
- how managers will be involved in introducing the change;
- how unexpected problems will be handled;
- how to deal with perceived losses associated with change; and
- developing strategies for dealing with short-term decreases in productivity.

The library will also have to make a decision about whether or not to use quality or change consultants and, if so, how. Key questions should be:

- Does the library have or can it quickly develop appropriate expertise?
- Does the personnel system allow for hiring or reassignment of someone to carry out the role of change agent?
- Are support and training resources locally available?
- What experience does the library have with planned/major change?
- Are staff resources available to plan as well as carry out the changes?

Selecting a metaphor to describe the adoption of continuous improvement and a vocabulary to use in the quality effort may seem to be minor issues but, as Marshak (1993) points out, they engender attraction or resistance at a subconscious level in the participants to the change. If library staff do not believe there are serious problems to be dealt with, selling quality as a solution will be an uphill battle. Likewise, if quality improvement is used as a code term for downsizing, significant resistance can be expected (if staff size is to be reduced through layoffs, it is advisable to separate that decision/action from quality improvement in both time and space. If the two actions—quality and layoffs—take place in a similar time frame, whether linked or not as decisions, they will be perceived as having a cause-and-effect relationship).

The language of quality must have its basis in the vision and/or specific goals the library has established for improvement. Much attention

is paid, especially in quality-specific materials, to the need for leadership vision, but this is often problematic. Directors in public and educational agencies, such as libraries, do not have the same latitude in imposing their vision on the organization as do chief executives in for-profit entities. What must be clear is the desired end state. Participants need to know that after the change has been fully implemented, the library is expected to be substantively and qualitatively different, and they need to know what these differences are.

A third and closely related issue is how the values of the library, its staff, and stakeholders will be strengthened or changed by the adoption of quality improvement. This implies that the champion(s) of quality must know and understand these values at the beginning of the change process. How does the champion identify values? Often they are implicit in the formal and, especially, informal rhetoric of the library. When staff members or groups question a decision or policy, what arguments do they make? These are usually linked to what they perceive to be library values. What behaviors are held up as examples of outstanding performance? These are based on values. What are the "social" mistakes that only newcomers would make? These are violations of values—often unwritten and unvoiced.

To select appropriate tactics for accomplishing the language-, vision-, and values-related aspects of the change, the steps which need to be taken are:

- identify values which will support or hinder the change
- describe the desired end state to show how it relates to existing values
- begin to question values which will be undermined by the change (i.e., good enough may not be what our users expect or quality need not necessarily cost more)
- select metaphors and other rhetorical devices built on supportive values

Management, besides dealing with the issues identified above, will do well to begin grappling with the tough question of how far to go with formal quality improvement. For example, most libraries are currently structured in a manner that is probably too hierarchical and too functionally oriented to be completely compatible with continuous improvement. Is the library open to restructuring as the implementation of quality makes progress? How much flexibility is there to change systems that are used to maintain the library and its staff—e.g., performance appraisal or selection systems? (If there is openness to these larger issues, they may be strong candidates for P-D-C-A treatment at a later date.)

Most of the activities undertaken during agenda setting serve to smooth the way for both the social and the technical changes to come as part of continuous improvement, but they are particularly important in shaping new attitudes and to the success of change in philosophy and

values. (Libraries using a "back door" plan will probably ignore both this and the following phase.)

COMMUNICATION OF KNOWLEDGE/PERSUASION

Leonard-Barton's (1988) implicit argument that these two steps occur simultaneously seems to reflect one of the differences between change at the organizational and change at the individual level. Whereas individuals may separate the two actions, first gathering information and then weighing it to determine whether the evidence is persuasive, organizations seem to mesh the two processes, collecting some information and evaluating it, then looking for additional information which either supports or contradicts the earlier findings. In both cases there is tremendous need and a corresponding capacity to seek and judge information. This is apparently one of the reasons why even changes that are well-planned and generally appealing take such a toll on productivity.

During the period when information is being conveyed and persuasive tactics are being applied, those leading the library toward quality will be busy: providing information in many forums; responding to questions; attending meetings; clarifying and reinforcing vision and/or goals; and balancing individual and organizational concerns. Again, the emphasis will be on the social and attitudinal components of the change, but setting the stage for adoption of specific quality technologies becomes important toward the end of the persuasion process. Library staff may initially be drawn to the empowerment aspects of quality, but they need to learn at the same time that this power is achieved through the rigorous and consistent use of quality-focused tools.

Three of the critical diffusion factors will receive attention as part of the knowledge transfer process. They are key to convincing library staff members to consider structured quality improvement as a useful innovation. Advantage, compatibility, and complexity will be conveyed through language chosen, examples used, and goals presented. Additional issues which should be addressed during this stage of the change process include:

- information about resources which have been set aside to make the change;
- planned opportunities for training and/or practice; and
- successful implementations in similar libraries.

Although the director and board may believe the decision to adopt quality was reached long ago, it is only when a critical mass of the participants also reaches this decision that a tentative organizational decision has been reached. Critical mass does not require a majority of staff; it may not even mean a large minority, though either would be a desirable outcome to this stage. If management support is strong, commitment

from a significant number of opinion leaders and lack of overt resistance from others should be enough to move forward in either the "managed change" or "small wins" scenario.

TENTATIVE DECISION

With the tentative decision made, the library begins to move from discussion and examination to action, although there continues to be great need for information sharing both with active participants and those still on the sidelines. Trialability and observability, the two as yet unaddressed critical factors in diffusion, become the center of tactical efforts. Strategic opportunities to implement quality principles and practices in the library are sought; the selected opportunities must not only exhibit the capacity of the quality system to work better than other approaches, but they must also be implementable on a small scale and observable throughout the organization. Pilot or experimental projects should also balance risks and impact. They should be big enough to matter but small enough to succeed in a reasonable time span. There may be occasions when a library would choose a risky visible project to persuade vocal opponents or to counter a specific criticism of quality improvement.

Tactical decisions will focus on:

- selecting appropriate pilot projects and/or experiments (keeping in mind the necessity to involve various levels of staff and diverse units);
- securing participation of opinion leaders on project teams;
- designing and delivering the needed training and support to teams; and
- determining appropriate rewards for successful projects.

In the library that is using a "back door" approach, the implementation of quality probably starts at this stage. Initial projects are likely to be guided by innovators rather than opinion leaders, and risk is less a factor than the perceived need to do something different.

CONFIRMATION

This is the phase of diffusion when structural adjustments begin to be made to accommodate the change and when the "technologies," tools, and practices in the case of TQM, are customized to the adopting organization. Assuming that the pilots or experiments have achieved some successes, the quality program starts to influence the way the library operates. Members of the "early majority" population begin to show interest in the innovation, and some even give it a try. Up until this point, the participants, in training for example, have been primarily innovators and early adopter/opinion leaders; now there may be more people interested in training for projects or teams than can be accommodated. If the library has been using a consultant to advise on the implementation process,

this is likely the time when that person is supplanted by members of the library's own staff.

It is management's responsibility to trigger the move from the tentative decision phase to confirmation, so one of the tactical decisions to be tackled is what indicators will be used to show that the library is ready to move into this stage. Indicators could be a certain number of successful projects completed, a specified percentage of staff trained in the basics of quality, or a measurable increase in staff interest and accompanying decrease in resistance. On the individual level, the confirmation stage has been entered when the specific tools and practices of quality have had an impact on behavior. As staff apply the tools, talk about root causes, begin to ask others for data to support decisions, etc., the change is observable.

This is the stage at which one or more teams of staff might be established to develop broader implementation plans and to identify desired outcomes and specific measures by which to shape and improve the quality effort in the library. In many organizations, this is the time when staff members take on significant responsibilities for training or facilitating the expanding number of new teams/projects.

Issues needing attention in the tactical area include:

- keeping balance between conceptual and practical aspects of quality improvement;
- identifying systems which must be modified to stabilize the change and making those modifications;
- maintaining a steady or increasing pace in the projects undertaken; and
- if major structural changes are to be made, shape the plans for doing so.

STABILIZATION

As the confirmation stage gradually shifts into stabilization, the innovation loses its separateness and its distinct identity; structured quality improvement becomes "just the way we do things around this library." The language and metaphors espoused in the beginning of the implementation process may remain in the organizational vocabulary or may have been subtly replaced with other terms, but there is consensus about their use and meanings. Although quality may not be perceived as a separate aspect of the library's operations, the champion and other leaders should not be too quick to assume that the adoption will "stick" without further attention. Continuous improvement is hard work even when it is the norm, so the library needs to provide reinforcement as well as ongoing opportunities for staff members to refresh and expand their quality-related skills.

Tactics which should be considered at this stage include:

- appropriate attention to any lingering resistance;

- further structural changes; and
- formalized system for monitoring changes in the external environment.

CONCLUSION

There is probably no perfect example of how to implement structured quality improvement just as there is no perfect model of organizational change. Based on the literatures of change and quality, it is obvious that the right approach for any library will be that approach which best reflects both the internal culture and external environment of that library. Libraries adopting a quality focus should plan thoughtfully and strategically and should be prepared for what will, in all likelihood, be a lengthy process. In preparing for the implementation of quality improvement, it may be helpful to think separately about the attitudinal or philosophical changes it will require in managers and staff and the technical or practical changes it will require in systems and procedures.

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